

(This reprint includes change one)



DoD 5010.15.1-M
VOLUME IX

STANDARDIZATION OF WORK MEASUREMENT

**Defense
Work
Measurement
Standard
Time
Data
Program**

VOLUME IX
MISCELLANEOUS OCCUPATIONS
(TRANSPORTATION, PACKAGING,
MATERIALS HANDLING...)

January 1977



DEPARTMENT OF DEFENSE
DEFENSE INDUSTRIAL RESOURCES SUPPORT OFFICE
CAMERON STATION
ALEXANDRIA, VIRGINIA 22314

CH 1
DOD 5010.15.1-M
VOLUME IX

DIRSO
1 Dec 77

REPLY
REFER TO

CHANGE NO. 1
DOD 5010.15.1-M

STANDARDIZATION OF WORK MEASUREMENT
MISCELLANEOUS OCCUPATION

I. DoD 5010.15.1-M, Volume IX, ¹~~January~~ 1977, is changed as follows:

A. Page v: *PART TWO, Section I*

1. Line 6: Delete "three" and substitute "four".
2. Add the following paragraph:

The Action Verb Index which is an alphabetical listing of the "title" line of the operation/element description sequenced by the Action Verb, page D-1 thru D-21.

B. Page headed Occupation Code Index

1. Line 20: Delete "170" and substitute "169".
2. Line 24: Delete "225" and substitute "223".
3. Line 28: Delete "225" and substitute "224".
4. Add the page number A-1 at bottom of page.

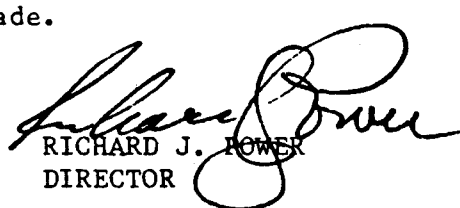
C. Pages B-15 thru B-23: Change all page numbers from 133 up to reflect one lower number (i.e., 135 is changed to 134).

D. Pages C-1 thru C-23: Change all page numbers from 133 up to reflect one lower number (i.e., 179 is changed to 178).

to add page D-1 thru D-21 after page C-23

II. This change is an administrative correction of error and an addition of a verb index for the elements published in this volume.

III. This change sheet will be filled in front of the publication for reference purposes, after changes have been made.


RICHARD J. POWER
DIRECTOR

STANDARD TIME DATA
FOR
MISCELLANEOUS OCCUPATIONS

TABLE OF CONTENTS

PART ONE - GUIDANCE

	<u>Paragraph</u>	<u>Page</u>
Chapter I - General Information		
Purpose	1.1	1
Scope	1.2	1
Application	1.3	1
Submission of New Elements	1.4	2
Chapter II - Coding		
General	2.1	2
Types of Codes	2.2	2
Job Level Formats	2.3	3
Fundamental Elements	2.4	3
List of Illustrations		
DWMSTDP Coding Structure (Figure 1)		2
Miscellaneous Occupations Codes (Figure 2)		4
Work Description of DWMSTDP Miscellaneous Occupations Codes (Figure 3)		7
Major Categories of Work Used in Coding Miscellaneous Data (Figure 4)		9

PART TWO - MISCELLANEOUS OCCUPATIONS STANDARD TIME DATA

Section I - Indexes

A - Occupation Code Index	A-1
B - DWMSTDP Element Index	B-1
C - Noun/Verb Index	C-1
D - Action Verb Index	D-1

Section II - DWMSTDP Element Listing	1 thru 187
--------------------------------------	------------

DEFENSE WORK MEASUREMENT STANDARD TIME
DATA PROGRAM (DWMSTDP)

MISCELLANEOUS OCCUPATIONS

PART ONE - GUIDANCE

CHAPTER I - GENERAL INFORMATION

1.1 PURPOSE

This volume of Miscellaneous Occupations Standard Time Data is one of ten volumes of standard time data in the 11 volume series included in DWMSTDP. Miscellaneous Occupations as categorized by the Department of Labor includes those occupations concerned with transportation services (surface, water and air); materials handling, packaging and warehousing; utilities; amusement, recreation and motion picture services; mining and logging; graphic arts; and various other activities. This volume provides a single DoD source for Standard Time Data elements which can be used in the development of labor standards for:

1.1.1 Organizations, activities or functional areas whose primary mission correlates to miscellaneous occupations, e.g., surface, water and air transport and terminal operations; packaging or packing; materials handling, warehousing.

1.1.2 Miscellaneous type operations which are accomplished in organizations, activities or functional areas with primary missions not correlated to Miscellaneous Occupations, e.g., packagers or material handlers assigned to maintenance or machine shops.

1.1.3 Elements of work performed by personnel whose primary job is other than Miscellaneous but who may actually do that type work as part of their job, e.g., a machinist attaching and operating a hoist to a part being machined, (materials handling), a mechanic unpacking a part to be installed, (packaging), or a construction worker handling materials, (materials handling).

1.2. SCOPE

This publication applies to all military services and defense agencies. The data contained herein will be used to the maximum extent practicable in the development of labor performance standards in compliance with DoD Directive 5010.31.

1.3 APPLICATION

The Miscellaneous Occupations Standard Time Data contained in this volume must be applied in accordance with the general instructions contained in the Basic Volume and the specific instructions contained in this volume.

The data should be used in conjunction with the standard storage and materials handling methods provided in Volume II of the Joint Storage and Materials Handling Manual (TM 743-200/NAVSUP PUB 284/AFM67-3/NAVMC 1101/DSAM 4145.1). These are considered the minimum acceptable methods. Where more modern or improved facilities or equipment permit more effective methods, the improved method is used.

1.4 SUBMISSION OF NEW ELEMENTS

All newly developed or existing Miscellaneous Occupations Standard Time Data element(s) not now included herein will be submitted with back-up motion pattern analysis to the Defense Industrial Resources Support Office (DIRSO) for review and possible inclusion in the updating changes to this volume. The Basic Volume contains procedures for submitting this input.

CHAPTER II - CODING

2.1 GENERAL

The complete coding structure for a Defense Work Measurement Standard Time Data element is explained in the Basic Volume. Figure 1 highlights the Occupation Code, Work Category Code, and the Work Sub-Category Code of a Miscellaneous element.

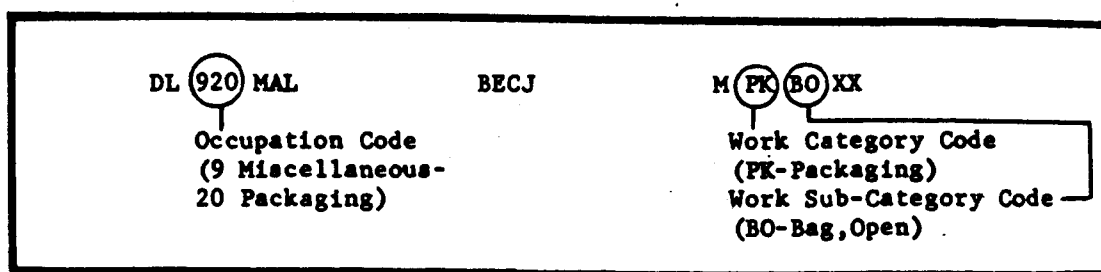


Figure 1. - DWMSTDP Coding Structure

2.2 TYPES OF CODES

2.2.1 Occupation Codes

The Occupation Codes for standard time data elements in this volume conform to the numeric codes of Miscellaneous Occupations listed in the U.S. Department of Labor Dictionary of Occupational Titles. All Department of Labor Miscellaneous Occupations are shown in Figure 2. Figure 3 identifies the work ascribed to the specific occupations contained in this volume.

2.2.2 Work Category Code

The two position Work Category Code encircled in Figure 1 further identifies the various types of work performed within the occupation groups. This classification category indicates the major action being performed or major equipment involved in the standard time data element. Figure 4 lists and defines the work categories used in coding Miscellaneous Occupations standard time data.

2.2.3 Work Sub-Category Code

The two position Work Sub-Category Code encircled in Figure 1 is a sub-division of the Work Category Code and identifies the object, process, or condition associated with

the action or equipment. This code is generally oriented to a noun-verb relationship, e.g., BO is the code for "Bag,Open" in the element description header line. However, if the noun-verb sequence in the element code causes a duplication of the code, the sequence has been modified. The noun-verb sequence will remain in the verbage of the element title whenever possible.

2.2.4 Special and Task Level Case Codes

Several of the Special (S) and Task (K) level elements are coded in a Constant and Variable (Con and Var) time format to provide the flexibility needed for local use. In these elements the DEC includes an X in the sixth position and either an alpha or numeric symbol in the seventh position, (e.g., KSHCLXA). In the subordinate Cases the sixth position is coded with either a numeric to indicate a constant time case (KSHCL1A) or an alpha to indicate a variable time case (KSHCLAA or KSHCLBA).

2.3 Job Level Formats

Job level formats are provided to assist in the local development and application of job standards.

2.4 Fundamental Elements

Every occupation includes general purpose elements such as get, place, read or write which are fundamental to each occupation but not specific to any one. These elements are called "Universal" and are contained in Volume X - Universal Standard Time Data.

9 - MISCELLANEOUS OCCUPATIONS

(MISCELLANEOUS WORK)

90 Motor Freight Occupations
(Motor Freight Transportation)

- 900. Concrete-mixing truck drivers
(Concrete-mixing-truck driving)
- 902. Dump-truck drivers
(Dump-truck driving)
- 903. Truck drivers, inflammables
(Truck driving, inflammables)
- 904. Trailer-truck drivers
(Trailer-truck driving)
- 905. Truck drivers, heavy
(Heavy truck driving)
- 906. Truck drivers, light
(Light truck driving)
- 909. Motor freight occupations, n.e.c.
(Motor freight transportation, n.e.c.)

91 Transportation Occupations, N.E.C.
(Transportation Work, N.E.C.)

- 910. Railroad transportation occupations
(Railroad transportation)
- 911. Water transportation occupations
(Water transportation)
- 912. Air transportation occupations
(Air transportation)
- 913. Passenger transportation occupations, n.e.c.
(Passenger transportation, n.e.c.)
- 914. Pumping and pipeline transportation occupations
(Pumping and pipeline transportation)
- 915. Attendants and servicemen, parking lots and service facilities
(Parking lot and related service work)
- 919. Miscellaneous transportation occupations, n.e.c.
(Miscellaneous transportation work, n.e.c.)

92 Packaging and Materials Handling Occupations
(Packaging and Materials Handling)

- 920. Packaging occupations
(Packaging)
- 921. Hoisting and conveying occupations
(Hoisting and conveying)

Figure 2 - Miscellaneous Occupations Codes

- 922. Occupations in moving and storing materials, n.e.c.
(Materials moving and storing, n.e.c.)
- 929. Packaging and materials handling occupations, n.e.c.
(Packaging and materials handling, n.e.c.)
- 93 Occupations in Extraction of Minerals
(Extraction of Minerals)
- 930. Boring, drilling, cutting, and related occupations
(Boring, drilling, cutting, and related work)
- 931. Blasting Occupations
(Blasting)
- 932. Loading and conveying occupations
(Loading and conveying)
- 933. Crushing occupations
(Crushing)
- 934. Screening and related occupations
(Screening and related work)
- 939. Occupations in extraction of minerals, n.e.c.
(Extraction of minerals, n.e.c.)
- 94 Occupations in Logging
(Logging)
- 940. Timber cutting and related occupations
(Timber cutting and related work)
- 941. Log inspecting, grading, scaling, and related occupations
(Log inspecting, grading, scaling, and related work)
- 942. Log sorting, gathering, storing, and related occupations
(Log sorting, gathering, storing, and related work)
- 949. Occupations in logging, n.e.c.
(Logging, n.e.c.)
- 95 Occupations in Production and Distribution of Utilities
(Production and Distribution of Utilities)
- 950. Stationary engineers
(Stationary engineering)
- 951. Firemen and related occupations
(Firing and related work)
- 952. Occupations in generation, transmission, and distribution of electric light and power
(Generation, transmission, and distribution of electric light and power)
- 953. Occupations in production and distribution of gas
(Production and distribution of gas)
- 954. Occupations in filtration, purification, and distribution of water
(Filtration, purification, and distribution of water)
- 955. Occupations in disposal of refuse and sewage
(Refuse and sewage disposal)

Figure 2 - Miscellaneous Occupations Codes (Continued)

- 956. Occupations in distribution of steam
(Distribution of steam)
- 957. Occupations in transmissions of communications, n.e.c.
(Transmission of communications, n.e.c.)
- 959. Occupations in production and distribution of utilities, n.e.c.
(Production and distribution of utilities, n.e.c.)
- 96 Amusement, Recreation, and Motion Picture Occupations, N.E.C.
(Amusement, Recreation, and Motion Picture Work, N.E.C.)
- 960. Motion picture projectionists
(Motion picture projecting)
- 961. Model and stand-ins, n.e.c.
(Modeling and related work, n.e.c.)
- 962. Occupations in production of motion pictures, n.e.c.
(Motion picture production, n.e.c.)
- 963. Occupations in radio and television production, n.e.c.
(Radio and television production, n.e.c.)
- 964. Occupations in theatrical and related entertainment production, n.e.c.
(Theatrical and related entertainment production, n.e.c.)
- 969. Miscellaneous amusement, recreation, and motion picture occupations, n.e.c.
(Miscellaneous amusement, recreation, and motion picture work, n.e.c.)
- 97 Occupations in Graphic Art Work
(Graphic Art Work)
- 970. Art work occupations, brush, spray or pen
(Art work, brush, spray or pen)
- 971. Photoengraving occupations
(Photoengraving)
- 972. Lithographers and related occupations
(lithography and related work)
- 973. Hand compositors, typesetters, related occupations
(Hand composition, typesetting, and related work)
- 974. Electrotypers and related occupations
(electrotyping and related work)
- 975. Stereotypers and related occupations
(Stereotyping and related work)
- 976. Darkroom occupations, n.e.c.
(darkroom work, n.e.c.)
- 977. Bookbinders and related occupations
(Bookbinding and related work)
- 979. Occupations in graphic art work, n.e.c.
(Graphic art work, n.e.c.)

n.e.c. - not elsewhere classified

Figure 2 - Miscellaneous Occupations Codes (Continued)

DWMSTDP MISCELLANEOUS OCCUPATIONS CODES

<u>Code</u>	<u>Occupation</u>	<u>Work Description</u>
904	Trailer Truck Driver (Trailer Truck Driving)	Driving semitrailer or full-trailer trucks to transport cargo.
910	Railroad Transportation Occupations (Railroad Transportation)	Transporting passengers and freight by controlling movement of trains, trolleys, and railway vehicles; collecting fares from passengers and giving information; supply fuel; adjusting alignment of tracks; signaling operational information; shifting railway cars in classification yards; cleaning and lubricating equipment; and related activities.
920	Packaging Occupations (Packaging)	Assembling containers; pouring and placing materials and products into containers, covering articles or goods with cellophane, paper and/or other wrapping materials; cleaning, closing, labeling, stenciling, and stacking articles and containers; and operating or tending, filling, packing or wrapping machines.
921	Hoisting and Conveying Occupations (Hoisting and Conveying)	Lifting and moving materials, machines, and products using power-operated cranes, hoists, winches, conveyors, and/or industrial trucks; attaching ropes, chains, slings, or other devices to objects being moved; signaling machine operators and guiding moving loads; and related activities.
922	Occupations in Moving and Storing Materials, n.e.c. (Moving and Storing Materials)	Loading and moving materials and products, using handtrucks or wheelbarrows; shoveling, carrying, sorting, and stacking materials and products; and stock checking or records keeping.
929	Packaging and Materials Handling Occupations, n.e.c. (Packaging and Materials Handling)	Packaging and materials handling not elsewhere classified.

n.e.c. - not elsewhere classified

Figure 3 - Work Description of DWMSTDP Miscellaneous Occupations Codes

DWMSTDP MISCELLANEOUS OCCUPATIONS CODES

<u>Code</u>	<u>Occupation</u>	<u>Work Description</u>
972	Lithographers and Related Occupations (Lithography and Related Work)	Lithographers and Related Occupations This group includes occupations concerned with reproducing line or continuous tone copy on stone, metal, plastic, glass, or other media by photographic or other means of transferring images to make plates used in lithographic or offset printing processes.
976	Darkroom Occupations, n.e.c.	This group includes occupations, not elsewhere classified, concerned with photographing flat copy; enlarging or reducing copy by projection printing; contact printing; developing and fixing negatives, positives, and prints; developing and printing still or motion-picture black-and-white or color film; toning, dodging, or otherwise controlling resulting prints; and mixing small batches of photographic chemicals for immediate use.

n.e.c. - not elsewhere classified

Figure 3 - Work Description of DWMSTDP Miscellaneous Occupations Codes (Continued)

MISCELLANEOUS OCCUPATIONS WORK CATEGORY CODES

<u>Work Category</u>	<u>Code</u>	<u>Definition</u>
Actuate	AC	Manual manipulation of an object for engaging, disengaging, starting or stopping a device. (Examples: crank, dial, set with knob, move lever.) The process of manipulating an object by cranking, turning, or moving through a fixed part. Putting something else in action by handling a switch or control.
Body Motion	BM	Gross foot, leg, and body movement (other than basic manual and eye motions). (Examples: leg motion, horizontal change, sit and stand, vertical change, walk.)
Calculate	CA	The processes and motions involved in calculating machine computations.
Clean	CL	The removal of foreign matter by chemical, mechanical, or manual process. (Examples: ultrasonic cleaning, abrasive cleaning, use of solvent, rubbing, wiping, sweeping.)
Clamp	CP	The actions required to accomplish the nonmanual holding of object(s) with a clamp when required for repairing, modifying, manufacturing or assembly operations (Examples: "C", cleco, spring, hose, cable, conduit clamps, etc.)
Dip	DP	Motions necessary to dip or immerse an object in liquid or paste and/or remove excess. (Examples: dip brush, cloth, stick, parts, dip hand, finger.)
Equipment - Materials Handling	EH	The operation or preparation for operation of any mobile powered materials handling equipment to transport material from one location to another. (Examples: forklift truck, crane, straddle truck, warehouse tractor/trailer, cargo transporter.)

Figure 4 - Major Categories of Work Used in Coding Miscellaneous Occupations Data.

MISCELLANEOUS OCCUPATIONS WORK CATEGORY CODES

<u>Work Category</u>	<u>Code</u>	<u>Definition</u>
Equipment- Transport Vehicle	EV	The operation or preparation for use of any powered over-the-road transport vehicle for transportation of personnel or cargo. (Examples: automobile, bus, pickup truck, truck trailer, and railcar.)
File	FL	The motions necessary to locate, place, remove or partially remove and replace cards, documents and folders at file location.
Gauge and Measure	GM	The procedure by which the size, amount extent, or capacity of an item is determined. (Examples: bisect, gauge, square, weigh.)
Identify	ID	The process and motions required to stamp, tab, label, or mark documents, cards, folders, or objects to provide for locating, recognizing, or comparing. The actions necessary to recognize, match, or compare similar characteristics.
Inspect and Test	IT	The procedure or action by which an item is subjected to comparisons or measurements to determine its qualities for use. (Examples: use of bore indicating gauge, use of feeler gauge, use of micrometers, eye times, check mandrel for run-out.)
Job Preparation	JP	The actions required to prepare an object(s), work place, or employee(s), or any combination of the three for ensuing work. NOTE: Excluded from this category are layout, packaging, and machine setup.
Materials Handling Devices	MH	The process of locating relocating, positioning, and aligning mechanical devices such as conveyors, pallet jacks, hoists, carts, slings, etc., for the purpose of moving objects or moving the device out of the way.
Machine Time	MT	The elapsed time for a machine which is under the command of an operator, operating under

Figure 4 - Major Categories of Work Used in Coding Miscellaneous Occupations Data
(Continued)

MISCELLANEOUS OCCUPATIONS WORK CATEGORY CODES

<u>Work Category</u>	<u>Code</u>	<u>Definition</u>
Machine Time (Continued)	MT	automatic control, to complete an operation necessary to a product. (Example: lower/raise pallet pit platform - 66.7 TMU/FT.)
Non-threaded Fastener	NF	The permanent or semi-permanent holding or locking of mating objects by other than threads or clamping actions.
Object Handling	OH	The process of manually moving an object for the purpose of changing its location or alignment. The movement path may or may not be fixed.
Paper Handling	PH	The processes and motions involved in the securing, movement, placement and alignment of paper, cards, sheets, etc.
Package	PK	Preparing an object for shipping or storing or removing object from shipping or storing condition.
Process Time	PT	The interval of time made up of a combination of manual and machine time components, so integrated that it would be impossible or impractical to separate and analyze them with MTM. Process time may be obtained by stopwatch, manufacturers' specs or formulae.
Receiving	RC	The physical handling and movement of inbound material from a carrier to consolidation breakdown area or storage, including removal of blocks, braces, tie downs, shoring and other actions that are necessary to receive material. Elements in this work category are primarily at the task (K) and job (J) levels and are generally composed of a number of lower level elements in other occupational or work categories that, when combined, make up the receiving operation.
Shipping	SH	The physical handling and movement of material from storage or packing onto an outbound carrier or transportation container and includes installing blocks, braces, tie downs, shoring and the performance of other operations that are necessary to ship material.

Figure 4 - Major Categories of Work Used in Coding Miscellaneous Occupations Data
(Continued)

MISCELLANEOUS OCCUPATIONS WORK CATEGORY CODES

<u>Work Categories</u>	<u>Code</u>	<u>Definition</u>
Shipping (Continued)	SH	Elements in this work category are primarily at the task (K) and job (J) level and are generally composed of a number of lower level elements in other occupational or work categories that, when combined, make up the shipping operation.
Surface Treatment	ST	The application of chemicals to an object when the predominant purpose is to change the composition of its surface.
Tool, Use, Hand Operated - Man-powered	TL	The use of preparation for use of any non-powered implement, instrument or utensil held in the hand and used for cutting, hitting, digging, rubbing, etc. (Examples: knife, saw, hammer, shovel, rake, prybar, needle for sewing.)
Tool, Use, Hand Held - Powered	TP	The use or preparation for use of any hand held tool which derives its primary power for operation from a source other than the operator or user. (Examples: electric portable saw, portable pneumatic wrench.)
Write	WR	Writing or freehand printing numbers, letters, or punctuation of average readable quality and normal size or less than 1" height. (Examples: write letter-longhand, punctuate, write signs.)

Figure 4 - Major Categories of Work Used in Coding Miscellaneous Occupations Data
(Continued)